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ABSTRACT

This annotated bibliography lists resources pertaining to the construction and the development of a basketball skill test as a reflection of basketball playing ability. (CJ)

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AN ANNOTATED BIBLIOGRAPHY ON THE CONSTRUCTION AND THE DEVELOPMENT OF A BASKETBALL SKILL TEST

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AN ANNOTATED BIBLIOGRAPHY ON THE CONSTRUCTION AND THE DEVELOPMENT OF A BASKETBALL SKILL TEST

The physical educator and the coach have long been interested in facilitating the learning of complex skills through test batteries which predict proficiency in a task. In addition, practice task transferable to game situations have been devised (Cratty, 1968; Denny & Reisman, 1956; Eson, 1964; Harlow, 1949; Hebb, 1949; Lewis & Smith, 1952; Nelson, 1957).

Many researchers and writers have expressed the need for statistically valid and reliable instruments to measure competitive game performance (Antrim, 1972; Mitchell, 1974; Pritchett, 1971; Squibb, 1971; Terrible, 1971). Thus, physical educators are becoming more scientific in selecting measures of athletic performance. The refinement of skill testing has been accomplished through the application of subjective techniques, statistical analyses, and evaluation processes (Barrow & McGee, 1979; Safrit, 1973).

Therefore, the investigator has developed an annotated bibliography building upon previous findings in the basketball skill literature to assess methods and techniques used to determine proficiency in performance skill testing. This annotated bibliography is an attempt to introduce some tests and measurements in the field of motor playing ability and in the specific activity of basketball. The related contributions of this field and activity are studies constructed and developed by numerous investigators (Antrim, 1972; Barrow, 1959; Chappell, 1971; Cunningham, 1964; Edgren, 1932; Glassow, Colvin, & Schwarz, 1938; Gordon, 1978; Harrison, 1969; Hopkins, 1977; Lehsten, 1948, Leilich, 1952; Mitchell, 1974; Morris, 1966; Pritchett, 1971; Smith, 1962; Squibb, 1971; Stroup, 1955; Terrible, 1971; Young & Moser, 1934).

NOTE: The bibliography cited below has been selected on the basis of relevance, practicality, feasibility, and appropriateness for the construction and the development of a basketball skill test as a reflection of basketball playing ability. A chart has been presented following the annotated bibliography.

SP016362

Antrim, M.M. The construction and validation of a basketball skill test. Unpublished master's thesis, Texas Tech University, 1972.

A sample of 26 college women and three judges participated in the two-trail, 3-item skill test with a gamelike challenge for predicting and evaluating basketball playing ability. Variations of several tests were combined with the Edgren ball handling test. Acceptable reliability, validity, and objectivity were found through statistical analysis.

Barrow, H.M. Basketball skill test. The Physical Educator, 1959, 16, 26-27.

The writer afforded a detailed description of the purposes of basketball skill tests. The major purposes were to measure status and achievement. A skill test battery meeting the criteria of the stated purposes was presented and classified on the basis of norms.

Chappell, R.H. The development of a basketball battery for middle school male students. Unpublished master's thesis, Western Kentucky University, 1971.

Adaptation of the Lehsten basketball test as a means of determining playing ability was administered to 58 students. The skill test proved to be administratively practical and flexible. A substantial relationship was found between the results of four components of the eight-item battery and the subjective ratings of three judges.

Cunningham, P. Measuring basketball playing ability of high school girls (Doctoral dissertation, State University of Iowa, 1964). Dissertation Abstracts International, 1964, 25, 5095.

One-hundred-eight girls were rated by four judges on the seven-item battery. The predictions for three trials and the modified Edgren test yielded acceptable reliability coefficients. The skill test has been presented as a valid measure of basketball playing ability.

Edgren, J.D. An experiment in the testing of ability and progress in basketball. Research Quarterly, 1932, 3, 159-171.

The investigator developed and used a test and measurement in motor ability, to measure progress and the predictive potential of basketball ability, to carry over from specific skills to general ability. The eight-item battery was administered to 60 subjects. The results indicated that progress in the fundamentals of basketball could be measured.

Glassow, R.B., Colvin, V., and Schwarz, M.M. Studies in measuring basketball playing ability of college women. Research Quarterly, 1938, 9, 60-68.

The investigator combined the Edgren and the Young and Moser batteries to find an objective measure of basketball playing ability for grading college classes. The five-item battery of 10 trials was administered to 54 subjects where a raters' judgments were obtained based on the scores from student's rankings. The skill test had low validity coefficients but a high degree of reliability.

Gordon, P.A. Predictions of basketball playing ability of college women by selected tests (Doctoral dissertation, University of Arkansas, 1978). Dissertation Abstracts International, 1978, 39, 3449.

A sample of 20 women was administered a five item battery to determine the value of the Copper 12 minute run, the modified sargent jump and reach, the flexed arm hand, the skinfold thickness test and height as predictors of basketball playing ability. The Copper 12 minute run and height were found to be the best predictive measures.

Harrison, E.R. A test of measure basketball ability for boys. Unpublished master's thesis, The University of Florida, 1969.

Twenty-three boys participated in a study to determine the validity and reliability of a skill test for secondary physical education classes. The three judges rankings were compared to the Johnson Basketball test. The four-item battery with two trials was found to have a high degree of validity and reliability.

Hopkins, D.R. Factor Analysis of selected basketball skill tests. Research Quarterly, 1977, 48, 535-540.

Twenty-one test variables were administered; and, three demographic measures of (age, height, and weight) were obtained from 70 secondary school males to define the domain of basketball playing ability and to identify skill tests that would measure this domain. Oblique and orthogonal rotations were performed from the alpha factor, the canonical factor, image analysis and principal components analysis to investigate the hypothesized

demensions. The AAHPER basketball skill test was found to contain redundant items. A battery consisting of jump and reach, dribble, speed pass, and front shot provided a quick and objective measure of basketball skill.

Lehsten, N. A measure of basketball skills in high school boys. The Physical Educator, 1948, 5, 103-109.

The eight-item skill test was developed to establish a practical test for high school boys which would measure their abilities in various items involving basketball skills. The five judges subjective ratings were correlated with a five item battery to yield high validity coefficients.

Leilich, A.R. The primary components of selected basketball test for college women (Doctoral Dissertation, Indiana University, 1952). University Microfilms, 1952, GV885.

The three-item battery was administered to 110 subjects using the analysis of variance as a statistical tool to measure achievement in basketball skills. Twenty-eight tests were selected to measure various aspects of motor performance with six factors being isolated and identified. The factors were: (a) Kinesthesis, (b) Speed, (c) General motor ability, (d) Ball handling involving accuracy in goal throwing, (e) Ball handling involving passing accuracy and speed, and (f) Flexibility.

Mitchell, I.I. Two selected methods of judging varsity basketball players' ability. Unpublished master's thesis, North Carolina Central University, 1974.

C.W. Money's Basketball Ability Test and Mitchell's Balloting Frequency scale were used to rank 16 college men on basketball playing ability. Results indicated no relationship existed between basketball playing ability as determined by the skill test and by the player's judgment. The subjects as a group were weak in three shooting skills and strong on four passing skills.

Morris, C.M. The construction of a basketball motor ability test for college men through factor analysis (Doctoral dissertation, George Peabody College for Teachers, 1966). Dissertation Abstracts International, 1966, 27, 3709.

A sample of 50 men participated in the study to standardize a comprehensive basketball motor ability skill test. The test criteria were to demonstrate adequate reliability, administrative feasibility, and appropriateness as a skill measure of college men. Seven test variables proved to be helpful in improving the teaching technique of basketball skills.

Pritchett, R.J. Reliability and validity of a passing skill test in women's basketball. Unpublished master's thesis, Eastern Kentucky University, 1971.

The investigator attempted to determine the reliability and the validity of a new test using Scott's wall pass test as the criterion for validity with 103 college women participating in the study. Results indicated that the experimental test was not reliable nor valid. Recommendations were made to improve standardization and administration of the test. (The Scott test might also have been an inadequate criterion measure).

Smith, F.J. The prediction of basketball ability through an analysis of selected measures of structure and strength (Doctoral dissertation, George Peabody College for Teachers, 1962). Dissertation Abstracts International, 1962, 23, 3764.

Twenty-seven variables of structure and strength and four criteria variables were selected and administered to 40 male students to establish the relationship of selected measures of structure and strength and to determine if combinations of these measures predicted success in basketball skill. A close relationship existed between structure and strength variables.

Squibb, D.D. Evaluation of basketball player combinations by use of the offensive and defensive efficiency rating system. Unpublished master's thesis, South Dakota State University, 1971.

The investigator determined the most efficient and effective varsity basketball combinations used at South Dakota State University. Any combination of five basketball players were charted by use of Keller's Offensive Efficiency Rating System. From a total of 40 combinations, nine combinations were of importance to the head coach or involved enough possessions to be meaningful in an analysis. The standard deviation and coefficient of variability were computed to find the variability within combinations.

Stroup, F. Game results as a criterion for validating basketball skill test. Research Quarterly, 1955, 26, 353-357.

The study with 121 subjects demonstrated validation techniques for team sports using game results as a criterion an established three-item skill test to be economically suitable for equating basketball teams. The skill

test scores and game score allowed for approximately 84% of the correct predictions of outcomes.

Terrible, R. A basketball skills test for college women. Unpublished master's thesis, Pennsylvania State University, 1971.

The investigator devised an objective one-item skill test with four trials to evaluate 57 college women basketball playing ability to compare the authenticity of this test to the Harpster Ball Handling and Shooting Test. The experimental test validity was found to be higher than Harpster's validity coefficient.

Young, G., & Moser, H. A short battery to measure ability in women's basketball. Research Quarterly, 1934, 5, 3-11.

A five-item battery was constructed to measure playing ability in women's basketball. Three judges evaluations of 160 female college freshmen and sophomores were compared to their total scores on the skill test. The high degree of validity for each test item contributed to the validity of the skill test total score.

SUMMARY OF RESEARCH FOCUSING ON BASKETBALL SKILL TESTING

Investigator	SUBJECTS N	Sex	Skill Level	Statistical Evaluation	Judges	Trials	Time	# Items
Edgren (1932)	60	Men	Varied	t score and correlations 45.5 to 50.5 r = .13 to r = .77	None	None	Yes	8
Young & Moser (1934)	160	Female	High School	PPM r = .218 to r = .859	3	None	Yes	5
Glassow, Colvin, & Schwarz (1938)	54	Women	College	PPM Reliability r = .74 to r = .82 Correlation validity r = .12 to r = .66	1	10	Yes	5
Lehsten (1948	?	Boys	High School	Correlations validity r = .70 to r = .96	5	None	Yes	8
Leilich (1952)	110	Women	College	Analysis of Variance	None	None	Yes	3
Stroup (1955)	121	Men	College	Scale Scores 52-84	None	None	No	3
Smith (1962)	40	Men	College	Multiple Regression r = .49 to r = .60	None	None	No	4
Cunningham (1964)	108	Female	High School	SBPF Reliability r = .71 to r = .95 Correlations validity r = .34 to r = .69	4	3	Yes	7

Investigator	SUBJECTS N	Sex	Skill Level	Statistical Evaluation	Judges	Trials	Time	# Items
Morris (1966)	50	Men	College	Factor analysis 9 Varimax extracted	None	None	No	7
Harrison (1969)	23	Male	Junior and Senior High School	PPM Reliability r = .72 to r = .96 Intercorrelations validity r = .77 to r = .86	3	2	Yes	4
Chappel (1971)	58	Male	Middle School	Correlations r = .01 to r = .73	3	None	Yes	8
Pritchett (1971)	103	Women	College	PPM Reliability r = .56 Validity r = .38	None	None	Yes	None
Squibb (1971)	8	Men	College	F - Ratio Analysis OER = 2.28 DER = 1.48	None	None	No	None
Terrible (1971)	57	Women	College	PPM Reliability r = .84 Validity r = .65	5	4	No	1
Antrim (1972)	26	Women	College	SBPF Reliability r = .82 Correlations validity r = .74	3	2	Yes	3
Mitchell (1974)	16	Men	College	Spearman Rank r = .262	Peer ratings and Judges	None	No	None
Hopkins (1977)	70	Men	Junior and Senior High School	Factor Analysis	None	None	No	9
Gordon (1978)	20	Women	College	Stepwise multiple regression r = .786 Std. error ± .392	None	None	No	5